

5-5

NAME key

DATE _____

Practice Worksheet

Factoring

Factor.

1. $15a^2b - 10ab^2$

$$5ab(3a - 2b)$$

3. $16r^2 - 169$

$$(4r + 13)(4r - 13)$$

5. $2y^2 - 242$

$$2(y^2 - 121) = 2(y + 11)(y - 11)$$

~~7.~~ $8m^3 - 1$

9. $x^2 - 3x - 10$

$$(x - 5)(x + 2)$$

11. $4a^2 + a - 3$

$$(4a - 3)(a + 1)$$

13. $y^2 + 20y + 96$

$$(y + 8)(y + 12)$$

15. $x^2 - 8x + 16$

$$(x - 4)(x - 4)$$

17. $x^2 + 2x - xy - 2y$

$$x(x + 2) - y(x + 2)$$

19. $4x^6 - 4x^2$

$$4x^2(x^4 - 1) = 4x^2(x^2 + 1)(x + 1)(x - 1)$$

21. $45x^2 - 80y^2$

$$5(9x^2 - 16y^2) = 5(3x + 4y)(3x - 4y)$$

~~23.~~ $4a^2 + 12ab + 9b^2 - 25c^2$

25. $5y^5 + 135y^2$

$$5y^2(y^3 + 27) \leftarrow \text{for now}$$

2. $2x^3y - x^2y + 5xy^2 + xy^3$

$$xy(2x^2 - x + 5y + y)$$

4. $c^2 - 49$

$$(c + 7)(c - 7)$$

~~6.~~ $x^3 + 8$

8. $b^4 - 81$

$$(b^2 + 9)(b + 3)(b - 3)$$

10. $r^3 + 3r^2 - 54r$

$$r(r^2 + 3r - 54) = r(r + 9)(r - 6)$$

12. $2t^3 + 32t^2 + 128t$

$$2t(t^2 + 16t + 64) = 2t(t + 8)(t + 8)$$

14. $6n^2 - 11n - 2$

$$(6n + 1)(n - 2)$$

16. $21 - 7t + 3r - rt$

$$7(3 - t) + r(3 - t) = (7 + r)(3 - t)$$

~~18.~~ $x^2 + 2xy + 2x + y^2 + 2y - 8$

20. $k^3 - 2k^2r - 3kr^2$

$$k(k^2 - 2kr - 3r^2) = k(k - 3r)(k + r)$$

22. $36a^3b^2 + 66a^2b^3 - 210ab^4$

$$6ab^2(6a^2 + 11ab - 35b^2) = 6ab^2(3a - 5b)(2a + 7b)$$

24. $81x^4 - 16$

$$(9x^2 + 4)(3x + 2)(3x - 2)$$

26. $18p^3 - 51p^2 - 135p$

$$3p(6p^2 - 17p - 45) = 3p(2p - 9)(3p + 5)$$